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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

HAPTIC, INC.,	No. 3:24-cv-02296-JSC
Plaintiff,	
v.	**PLAINTIFF HAPTIC, INC.'S OPENING CLAIM CONSTRUCTION BRIEF**
APPLE INC.,	
Defendant.	Date: December 6, 2024
	Time: 10:00am
	Place: Courtroom 8
	Judge: Hon. Jacqueline Scott Corley

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Introduction

Haptic respectfully requests that the Court adopt its proposed claim constructions. The parties

dispute the construction of seven claim terms:

1. "said contact interaction being comprised of an impact on said mounting surface"
2. "terminal device"
3. "processing module . . . . said processing module determining a data pattern corresponding to said data signals of said contact interaction and matching said data pattern with a gesture profile"
4. "[additional] receiving module . . ."
5. "routing module . . . said routing module receiving said data signals from said sensor"
6. "output module . . . said output module transmitting said command to said receiving module"
7. "engagement means . . . wherein said engagement means of said housing comprises:

> an attachment means between said housing to said mounting surface; and

> a transmission portion connecting said sensor to said attachment means of said housing and being comprised of a material with flexibility different than said mounting surface so as to set a rigid position of said sensor relative to said mounting surface, said contact interaction generating said data signals of said sensor through said transmission portion"

See Dkt. No. 101.

For terms 1 through 6, no construction is required because the patentee neither engaged in

lexicography nor disavowed the full scope of the claims. Under those circumstances, the Federal

Circuit has repeatedly held that the plain and ordinary meaning must control, that it is improper to

import limitations through a construction, and that extrinsic evidence cannot be used to create an

ambiguity or contradict the intrinsic evidence. For terms 3 through 6—which claim "modules" that

identify structural components and the connections and interactions between those structures and the

other parts of the claimed server, control system, and terminal device—Haptic contends that these are

not "means-plus-function" terms governed by 35 U.S.C. § 112(f) because they (a) do not use the word

"means" and (b) the claim language connotes sufficiently definite structures for those terms to a

POSITA. And for term 7, Haptic's construction is supported by the functions and corresponding

structures of the "engagement means" disclosed in the claim language and specification. Haptic's

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constructions are consistent with the intrinsic record and Federal Circuit precedent regarding means-plus-function claim terms.

In contrast, Apple's proposed constructions insert new requirements not mentioned anywhere in the Patent, improperly import limitations from the specification into the claims, and ignore binding caselaw addressing means-plus-function terms. For term 1, Apple improperly inserts the word "*directly*" between "an impact" and "on a mounting surface." For term 2, Apple improperly substitutes the word "*remote*" for the claim language "terminal," even though the claim and specification never use the word "remote" to describe a "terminal device." For terms 3 through 6, Apple incorrectly argues that those terms are means-plus-function terms governed by § 112(f) and are indefinite. And Apple's construction of term 7 ignores additional corresponding structures in the specification and improperly imports a requirement that the engagement means "reduce damping," even though the relevant claim language does not use the word "damping." The Court should reject Apple's constructions and adopt Haptic's constructions.

Legal Standard

"Generally, claim terms should be given their ordinary and customary meaning to a person having ordinary skill in the art at the time of the effective date of the patent application." *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1217 (Fed. Cir. 2014). The caveat being that "[a] claim term's plain and ordinary meaning will not apply '1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Sisvel Int'l S.A. v. Sierra Wireless, Inc.*, 81 F.4th 1231, 1236 (Fed. Cir. 2023).

To act as its own lexicographer, a patentee must do more than "simply disclose a single embodiment or use a word in the same manner in all embodiments, *the patentee must clearly express an intent to redefine the term.*" *Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed.

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Cir. 2012) (emphasis added). "[T]he standard for disavowal of claim scope is similarly exacting" and "[i]t is likewise not enough that the only embodiments, or all of the embodiments, contain a particular limitation." *Id.* at 1366; *see also Cont'l Circuits LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019) ("[P]hrases such as 'one technique,' 'can be carried out,' and 'a way' indicate that using Probelec XB 7081 is only one method for making the invention and does not automatically lead to finding a clear disavowal of claim scope."). Instead, "to disavow claim scope, the specification must contain expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1306 (Fed. Cir. 2011).

In the means-plus-function term context of 35 U.S.C. § 112(f) (formerly § 112 ¶6), the test to determine whether a claim limitation is a means-plus-function element is whether the claim limitation recites, from the perspective of one of skill in the art, a sufficiently definite structure that performs the claimed function. Thus, "where a claim recites a function, but then goes on to elaborate sufficient structure, material, or acts within the claim itself to perform entirely the recited function, the claim is not in means-plus-function format." *Sage Products, Inc. v. Devon Industries, Inc.*, 126 F.3d 1420, 1427-28 (Fed. Cir. 1997).

If a claim term is determined to be a means-plus-function term, the Federal Circuit has elaborated a two-step process in construing such term. "The court must first identify the claimed function. . . . [t]hen, the court must determine what structure, if any, disclosed in the specification corresponds to the claimed function." *Williamson v. Citrix Online LLC*, 792 F.3d 1339, 1351 (Fed. Cir. 2015). Structure disclosed in the specification is a "corresponding" structure only if the specification or prosecution history "clearly links or associates that structure to the function recited in the claim." *Id.* at 1352.

"A challenge to a claim containing a means-plus-function limitation as lacking structural support requires a finding, by clear and convincing evidence, that the specification lacks disclosure of

1   structure sufficient to be understood by one skilled in the art as being adequate to perform the recited

2   function." *Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1376-77 (Fed. Cir. 2001).

3   **Person of Ordinary Skill in the Art**

4   Haptic asserts U.S. Patent No. 9,996,738 (Ex. A). The '738 Patent, titled "System and Method

5   for Controlling a Terminal Device" describes a control system for a terminal device, which includes a

6   housing, a sensor, a server, and a terminal device. The sensor detects contact interactions as data

7   signals. The server receives data signals from the sensor, determines a data pattern corresponding to

8   those data signals, matches the data pattern with a gesture profile associated with a command, and

9   transmits a command to a receiving module of a terminal device.

10   The parties dispute the definition of a Person of Ordinary Skill in the Art as relevant to the '738

11   Patent. Haptic's claim construction expert Dr. Danijela Cabric concludes: "A POSITA would hold an

12   undergraduate degree in electrical engineering, computer science, or a related field, and have at least

13   two years of practical experience as an engineer, including experience with signal processing." Ex. B

14   (Expert Report of Dr. Danijela Cabric) at ¶21. In contrast, Apple's claim construction expert concludes

15   that a POSITA "would have had a bachelor's degree in computer science, computer engineering, or a

16   related field, and two to three years of practical computer programming or engineering experience,

17   including experience developing user interface technologies."

18   Haptic's definition of a POSITA primarily differs from Apple's by including (a) a degree in

19   "electrical engineering" and (b) practical experience in "signal processing," in contrast to Apple's

20   proposed practical experience in "developing user interface technologies." Although the two

21   definitions substantially overlap, the Court should adopt Haptic's definition because the patented

22   technology is aimed at signal processing generally and encompasses a broader range of technology

23   than Apple's proposed "user interface technologies," which addresses only parts of the claimed control

24   system.

Claim Terms

I. **"Said contact interaction being comprised of an impact on said mounting surface"**

Term	Haptic's Proposed Construction	Apple's Proposed Construction
"said contact interaction being comprised of an impact on said mounting surface"	No construction necessary.	Where the contact interaction is a user impact (e.g., a knock) directly on the mounting surface

The term "said contact interaction being comprised of an impact on said mounting surface" is a plain English term that does not require construction. *Finjan, Inc. v. Proofpoint*, No. 13-cv-05808-HSG, 2015 WL 7770208, at *9 (N.D. Cal. Dec. 3, 2015) ("These are ordinary, simple English words whose meaning is clear and unquestionable. . . . They mean exactly what they say." (citation omitted).

Claim 1 provides in relevant part:

> A housing having an engagement means for a mounting surface;
>
> A sensor contained within said housing, said sensor forming an interactive zone defined by a range of said sensor, said sensor being comprised of an accelerometer, said interactive zone being aligned with said mounting surface and overlaying said mounting surface outside a perimeter of said housing, said sensor being in a fixed position relative to said engagement means, ***wherein a contact interaction associated with said mounting surface within said interactive zone is detected by said sensor as data signals, said contact interaction being comprised of an impact on said mounting surface***, said data signals being comprised of vibration data of said contact interaction;

Apple's proposed construction improperly inserts "***directly***" as a limitation into claim 1. But claim 1 simply requires an impact "on" the mounting surface, which a POSITA would understand could be either a direct or an indirect impact.

It is Apple's burden to demonstrate that a construction other than the plain and ordinary meaning applies. Yet Apple's claim construction expert report did not address this term. And the intrinsic evidence does not support adding the "directly" limitation that Apple has created out of whole cloth. Nothing in the specification or prosecution history indicates the patentee intended to clearly disavow indirect impacts—such as an impact through a phone case—from the scope of the claim. *Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1358 (Fed. Cir. 2004) ("Absent a clear

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disavowal in the specification or the prosecution history, the patentee is entitled to the full scope of its

claim language."). Nor does the specification indicate that the patentee attempted to act as its own

lexicographer and "clearly express an intent to redefine" "impact" as a "direct impact." *Thorner*, 669

F.3d at 1365.

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Indeed, the specification includes several embodiments of indirect contact interactions with the

mounting interface:

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> FIGS. 7-9 show other embodiments with the interactive zone 32 aligned with the
> mounting surface 22 in different positions. FIGS. 7 and 8 show the interactive zone 32
> coplanar and overlaying the mounting surface 22. FIG. 7 shows a wall as the mounting
> surface 22 with the housing 20 behind the wall. **The contact interaction is on the wall
> surface opposite the mounting surface 22,** but the knocking on the wall surface is
> transmitted to the mounting surface 22 and then to the sensor 30. Similarly, FIG. 8
> shows a table as the mounting surface 22 with the housing 20 underneath the table. **The
> contact interaction is on the tabletop, opposite to the mounting surface 22**. The
> knocking on the tabletop is transmitted to the mounting surface 22 on the bottom of the
> table and to the sensor 30. FIG. 9 shows the interactive zone 32 made integral with the
> mounting surface 22, such as embedded in a table. **The mounting surface 22 is within
> the table, and the tabletop is not the mounting surface 22**.

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'738 Patent at 7:48-64 (emphasis added). The corresponding figures are reproduced below:

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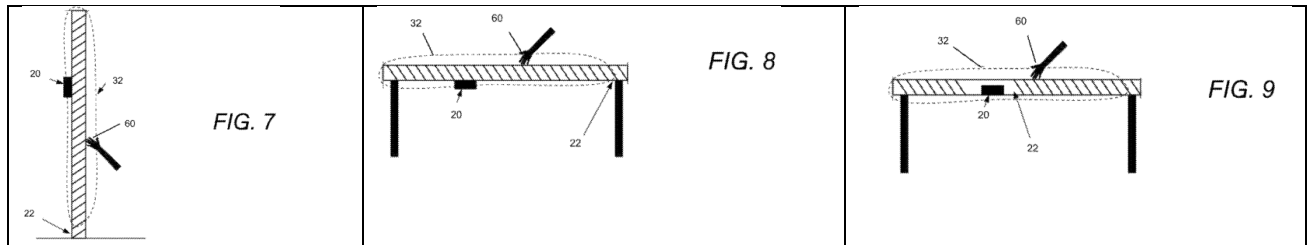
Indeed, none of the sections of the specification or file history that Apple cites discuss a "direct"

impact on the mounting surface or address adding "directly" to the claim language. *See* Dkt. No. 101.

Accordingly, Apple cannot meet the "exacting" standard for importing limitations from prosecution

history statements, which requires a "clear and unmistakable" disavowal of claim scope. *3M Innovative*

Properties Co. v. Tredegar Corp., 725 F.3d 1315, 1325 (Fed. Cir. 2013).

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Additionally, courts have previously construed "impact" to cover both direct and indirect

impacts. For example, in *Crane Co. v. Sandenvendo Am.*, the court construed the term "severe impact

forces" as "caus[ing] immediate effervescence and overflowing of carbonated beverages upon opening" or causing "damage to a container/product such that the container or product is no longer suitable for consumption or sale." 2009 WL 1586704, at *12 (E.D. Tex. June 5, 2009). These different types of "impacts" confirm that an "impact" can be either direct or indirect.

The Court should reject Apple's attempt to re-write the claims by adding a "directly" limitation into the claim language.

II.   "Terminal device" has a plain and ordinary meaning and should not be construed as "remote device."

Term	Haptic's Proposed Construction	Apple's Proposed Construction
"terminal device"	No construction necessary	remote device

The term "terminal device" should be given its plain and ordinary meaning and need not be construed. A POSITA understand "terminal device" as used in the '738 Patent to mean a device at an end point. *See* Ex. B at ¶¶37-38. The specification provides numerous embodiments of the claimed "terminal device," including "a television, lighting fixture, thermostat or laptop," as well as "a software system, a game console, a smartphone, a device running software, a fan, a mattress adjustor, an alarm clock, and a lighting fixture." *See* '738 Patent at 1:41-42. Claim 1 requires that a terminal device is comprised of "a receiving module and means for initiating activity of said terminal device corresponding to said command," which makes clear that the terminal device receives a command associated with a gesture profile and performs the activity associated with that command.

Moreover, a POSITA in the field of control systems would have understood that the physical location of a terminal device in relation to a server is a matter of implementation by an engineer. *Id.* at ¶48. A POSITA also would have understood that terminal devices can be, and frequently are, integrated with computers, systems, or servers with which they interact. *Id.* at ¶48.

The Court should reject Apple's construction of "terminal device" as "remote device." First, the plain and ordinary meaning must control as a matter of law because the patentee neither created a

special definition of "terminal device" nor expressly disavowed the full scope of the term. The specification does not "contain expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." *Retractable Techs. Inc. v. Becton*, 653 F.3d 1296, 1306 (Fed. Cir. 2011). Nothing indicates the patentee intended to limit the term "terminal device" to "remote devices," which are a mere separate subset of all devices.

Apple will likely attempt to characterize all the disclosed embodiments of terminal devices as operating as remote devices. But the Federal Circuit has made clear that to show a clear disavowal of claim scope, it is "not enough that the only embodiments, or all of the embodiments, contain a particular limitation." *Thorner*, 669 F.3d at 1366. Without a clear disavowal of claim scope or an express redefining of "terminal device," the term must be given its plain and ordinary meaning.

Second, Apple's proposed construction is inconsistent with the specification and does not conform to a POSITA's understanding of the term's plain and ordinary meaning. *See* Ex. B at ¶41. If the Court adopted Apple's proposed construction, part of the specification would read as follows:

> ***Remote control devices*** can also be associated with more than one [remote device]. . .
> Any computer with an interface (keyboard, mouse, touch pad or touchscreen) can be a
> ***remote control device*** for multiple [remote devices] with smart technology.

'738 Patent at 1:54-66 (emphasis added); *see id.* at 2:3-8, 2:21-24, 2:38-40, 3:26-29; Ex. B at ¶42. In the paragraph above, "remote" is used to describe both the terminal device and the control device.

Third, Apple's proposed construction—"remote device"—is never used in the patent's specification, claim language, or prosecution history. Devices can be remote, terminal, or both; but nothing requires a terminal device to be a remote device. *See Id.* at ¶¶41-45. Apple's proposed construction improperly treats the terms "remote" and "terminal" as synonymous.

Because Apple cannot show that the patentee expressly defined "terminal device" in a unique way or clearly disavowed the full scope of the term, the Court must not proceed to construing the term and should instead adopt the plain and ordinary meaning of "terminal device."

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III. **"Processing Module," "Receiving Module," "Routing Module," and "Output Module" are not means-plus-function terms that invoke 35 U.S.C. § 112(f), and even if they were, the Patent discloses sufficiently definite structures for those terms.**

The parties dispute whether 35 U.S.C. § 112(f) applies to the Patent's four "module" claim terms—processing module, receiving module, routing module, and output module—which describe structural components and the connections and interactions between those components and the other components within the claimed sensor, server, terminal device, and control system. Haptic contends that § 112(f) does not apply to these terms because (a) those terms do not use the word "means" and (b) the terms invoke sufficiently definite structures that could be implemented by a POSITA. In contrast, Apple contends that those terms are governed by § 112(f) and are indefinite.

Section 112(f) provides: "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. § 112(f)

A claim term's "failure to use the word 'means' . . . creates a rebuttable presumption . . . that § 112, para. 6 does not apply." *Williamson*, 792 F.3d 1339 at 1348 (citations omitted). "When a claim term lacks the word 'means,' the presumption can be overcome and § 112, para. 6 will apply <u>if the challenger demonstrates</u> that the <u>claim term</u> fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function." *Id.* at 1349 (emphasis added). In other words, to overcome the presumption, Apple must show the claim term itself does not provide sufficient structure. The Federal Circuit has held that claims recite sufficient structure and do not invoke § 112(f) when the claim language (a) refers "to a class of known structures" or (b) "recites multiple elements and their connections to one another" and the "recited combination of [] multiple broadly named structures informs the skilled artisan's relative understanding of what each structure is and what it is not, as well as how the various structures relate to one another." *WSOU Invs. LLC v.*

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Google LLC, No. 2022-1063, 2023 WL 6889033, at *4–5 (Fed. Cir. 2023); *Samsung Elecs. Am., Inc. v. Prisua Eng'g Corp.*, 948 F.3d 1342, 1354 (Fed. Cir. 2020).

In the event a defendant demonstrates that claim term itself lacks adequate structure—and thus § 112(f) applies—courts then proceed to consider the claimed function and "what structure, if any, disclosed in the specification corresponds to the claimed function." *Williamson*, 792 F.3d at 1351. For a means-plus-function term to be definite, the specification need only disclose enough of a corresponding structure to "permit one of ordinary skill in the art to . . . perceive the bounds of the invention." *Intelligent Automation Design, LLC v. Zimmer Biomet CMF and Thoracic, LLC*, 799 F. App'x 847, 2020 WL 486830, *3-5 (Fed. Cir. 2020). Indefiniteness "must be proven by clear and convincing evidence." *Sonix Tech. Co. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

Here, § 112(f) does not apply to any of the four "module" terms. None of the "module" terms uses the word "means," triggering the presumption against a means-plus-function construction. Accordingly, for § 112(f) to apply, it is Apple's burden to demonstrate that the claim terms, read in light of the remaining claim language, specification, prosecution history, and relevant extrinsic evidence, do not have a sufficiently definite structure to a POSITA. Apple cannot satisfy that burden. As described in further detail in subsections A–D below, each of the "module" terms connote a sufficiently definite structure to a POSITA.

Additionally, the claim further defines the structure of the "module" terms, as shown below:

A control system comprising:

. . .

a server in communication with said sensor, said ***server*** being comprised of a ***routing module***, ***a processing module being connected to said routing module***, and ***an output module connected to said processing module***, said ***routing module receiving said data signals from said sensor***, said ***processing module determining a data pattern corresponding to said data signals of said contact interaction and matching said data pattern with a gesture profile***, said gesture profile being associated with a command; and

a terminal device being comprised of *a receiving module* and means for initiating activity of said terminal device corresponding to said command, said terminal device being in communication with said server, said *output module transmitting said command to said receiving module*,

'738 Patent, Claim 1 (emphasis added). This language surrounding each "module" term specifically describes those modules' roles, interactions with, and connections to the other components of the sensor, server, control system, and terminal device, which informs those terms' "structural character." *See Proofpoint*, 2015 WL 7770208, at *11 ("The term 'content processor' has a sufficiently specific structure. Independent Claim 1 describes how the 'content processor' interacts with the invention's other components (the transmitter and receiver), which informs the term's structural character.").

The specification further informs a POSITA's understanding of the structures disclosed in the "module" claim terms, reinforcing the inapplicability of § 112(f). For example, Figures 1 and 2 provide examples of these structures' interactions and a flow-diagram describing how the components of the control system work together. The specification and figures below show the relationship between the sensor, server (of which the "processing," "routing," and "output" modules are component parts), and the terminal device (of which the "receiving module" is a component part):
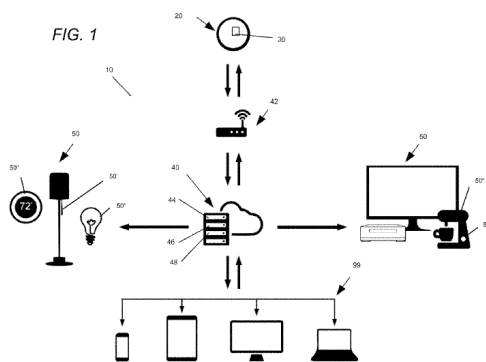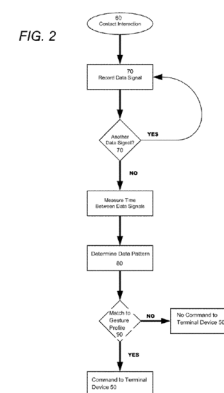
Thus, the "processing module," "output module," "routing module," and "receiving module" terms refer to a known class of structures, identify those terms' structural elements, and describe how each element interacts with the other elements within the control system. *WSOU*, 2023 WL 6889033,

at *4–5 (collecting authority and holding that § 112(f) does not apply when the "recited combination of [] multiple broadly named structures informs the skilled artisan's relative understanding of what each structure is and what it is not, as well as how the various structures relate to one another."); *Mad Dogg Athletics v. Peloton Interactive, Inc.*, 2021 WL 3200994, at *15 (E.D. Tex. July 28, 2021) (holding that § 112(f) does not apply when "each of the claims provides further structural context by reciting how the connected to the other structural elements and how [they] interact[] with those elements"); *Virginia Innovation Sciences, Inc. v. Amazon.com, Inc.*, 2019 WL 4259020 (E.D. Tex. 2019) (holding that § 112(f) does not apply because "the term 'processing unit' refers to a known class of structures in the art" and the "claim language describes how the controller 'interact[s] . . . with other limitations in the claim to achieve [its] objectives.'").

Here, just as in in *WSOU*, the claim language itself provides adequate structure and the Court should not treat the "module" terms as mean-plus-function terms that invoke § 112(f0.

A.   **"Processing module . . . said processing module determining a data pattern corresponding to said data signals of said contact interaction and matching said data pattern with a gesture profile"**

Term	Haptic's Proposed Construction	Apple's Proposed Construction
"processing module . . . said processing module determining a data pattern corresponding to said data signals of said contact interaction and matching said data pattern with a gesture profile."	No construction necessary. Not subject to 35 U.S.C. 112(f). Not indefinite.	Subject to 35 U.S.C. 112(f). Indefinite. Functions: - Processing - Determining a data pattern corresponding to the data signals - Matching the data pattern with a gesture profile Structure: - Processing module 46 - Equivalents thereof

"Processing module" is not a means-plus-function term and should be given its plain and ordinary meaning because the patentee neither acted as its own lexicographer nor made a clear disavowal of claim scope.

In addition to the reasons identified above applicable to all the "module" terms, a POSITA considering the term "processing module" as used in the '738 Patent would understand that it has a sufficiently definite structure. Ex. B at ¶¶54-56. Claim 1 references a commonly understood processor and further describes the function of that processor: processing data signals, determining a data pattern, and matching the data pattern with a gesture profile. *See* Claim 1 ("said processing module determining a data pattern corresponding to said data signals of said contact interaction and matching said data pattern with a gesture profile, said gesture profile being associated with a command."). Given the term itself and the described function, a POSITA would understand "processing module" as having a sufficiently definite structure that could be implemented with well-known signal processing methods. *See Id.* at ¶54. As such, no construction is necessary.

Although "there is no categorical rule" regarding whether the similar term, "processor," connotes sufficient structure to avoid interpretation in means-plus-function format, *see WSOU*, 2023 WL 6889033, at *3, courts have often held that "processor" is *not* a nonce word and that § 112(f) does not apply because "processor" connotes sufficient structure. *See St. Isidore Research, LLC v. Comerica Inc.*, No. 2:15-cv-1390, 2016 WL 4988246, at *15 (E.D. Tex. Sept. 18, 2016) (stating that the court has "typically found 'processor' to connote sufficient structure to avoid the application of § 112, ¶6."); *Samsung*, 948 F.3d at 1354 ("As used in the claims of the '591 patent, the term 'digital processing unit' clearly serves as a stand-in for a 'general purpose computer' or a 'central processing unit,' each of which would be understood as a reference to structure in this case, not simply any device that can perform a particular function."); *Zeroclick v. Apple Inc.*, 891 F.3d 1003, 1008 (Fed. Cir. 2018) (holding that §112(f) does not apply because "a person of ordinary skill in the art could reasonably discern from the claim language that the words program,' . . . and 'user interface code,' are used not as generic terms or black box recitations of structure or abstractions, but rather as specific references to conventional graphical user interface programs or code, existing in prior art at the time of the inventions.").

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Apple cannot overcome the presumption against applying § 112(f) because the phrase "processing module" as used in the '738 Patent is not used as a black box recitation of structure or abstraction, but rather as a description of a specific type of processor and references existing processors known in the art. Claim 1's description of the "processing module" specifically identifies the processing module's (a) location and interaction with other components (the processing module is connected to both the routing module and the output module) and (b) how the processing module performs its function (it determines a data pattern corresponding to data signals of said contact interaction and matches said data pattern with a gesture profile). *See Proofpoint*, 2015 WL 7770208, at *11 (holding that § 112(f) does not apply: "The term 'content processor' has a sufficiently specific structure. Independent Claim 1 describes how the 'content processor' interacts with the invention's other components (the transmitter and receiver), which informs the term's structural character.").

Apple's positions in its recently filed IPR Petition further support the proposition that § 112(f) does not apply. Relying on its own claim construction positions in this litigation, Apple equates "processing module" with "processor" and admits that the term "processing module" connotes sufficient structure, i.e., "logic and circuitry that performs several processing steps." *See* Ex. C at ¶57.

Accordingly, the term "processing module" does not invoke § 112(f).

If the Court concludes that "processing module" *does* invoke § 112(f), Apple fails to meet its burden to show that the term is indefinite.

The Patent's specification identifies a sufficient corresponding structure of "processing module." The specification discusses tasks a POSITA would understand as being carried out by a processor: "A data pattern for each contact interaction is determined by each defined peak and the defined time period after the last defined peak, and each measured time period between each defined peak, if there is a plurality of impacts." '738 Patent at 5:5-8; Ex. B at ¶¶64-65. Moreover, processing sensor-collected data to recognize a pattern is a conventional technique for a POSITA, in which a

POSITA could use known signal processing methods to process data and thereafter recognize patterns and regularities in such data. Ex. B at ¶¶63-65; *see Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1340 (Fed. Cir. 2016) ("The fact that this algorithm relies, in part, on techniques known to a person of skill in the art does not render the composite algorithm insufficient under 112(6). Indeed, this is entirely consistent with the fact that the sufficiency of the structure is viewed through the lens of a person of skill in the art and without need to 'disclose structures well known in the art.'").

B.   "[additional] receiving module"

Term	Haptic's Proposed Construction	Apple's Proposed Construction
"[additional] receiving module."	No construction necessary. Not subject to 35 U.S.C. 112(f). Not indefinite.	Subject to 35 U.S.C. 112(f). Indefinite. Functions: • Receiving Structure: • Receiving module 52 • Equivalents thereof

"Receiving module" is not a means-plus-function term and should be given its plain and ordinary meaning because the patentee neither acted as its own lexicographer nor made a clear disavowal of claim scope. Because "receiving module" does not use the word "means," it is Apple's burden to establish that § 112(f) applies. Apple cannot do so because "receiving module" recites simple English words that have a clear meaning: a receiver that receives a command. *See* Ex. B at ¶¶69-70.

In addition to the reasons identified above applicable to all the "module" terms, claim 1 describes "receiving module" as a structural component of the claimed "terminal device" that receives a command from an output module of the server:

> a terminal device being comprised of a ***receiving module*** and means for initiating activity of said terminal device corresponding to said command, said terminal device being in communication with said server, ***said output module transmitting said command to said receiving module.***

The claim describes the receiving module's role, connections to, and interactions with the other components of the control system, "which informs the term's structural character." *Proofpoint*, 2015

1   WL 7770208, at *11.

2   Apple's position that "receiving module" is subject to § 112(f) ignores that a POSITA would

3   understand "receiving module" to connote a known class of structures and is well understood in the

4   art as a synonym for, e.g., a receiver. Ex. B at ¶¶76-77; *see Dyfan, LLC v. Target Corporation*, 28

5   F.4th 1360, 1370-71 (Fed. Cir. 2022) (the claim language itself includes a specific structure, therefore

6   it is not a means-plus-function limitation). Indeed, the Federal Circuit has rejected previous attempts

7   to construe a similar term "receiver for receiving" as a means-plus-function term. *See EnOcean GmbH*

8   *v. Face Intern, Corp.*, 742 F.3d 955, 961-62 (Fed. Cir. 2014). The Federal Circuit likewise has

9   acknowledged that a POSITA would understand the structure of a "receiver" through the use of the

10   term alone. *Id*. Here too, a POSITA would understand the "receiving module" term to reference a

11   "receiver," wherein the specific configurations of such receiver would be a POSITA's choice of

12   implementation. Ex. B at ¶¶71-73.

13   Indeed, in its IPR petition, Apple relies on its claim construction positions in this litigation and

14   confirms that the term "receiving module" connotes a sufficiently definite structure. Specifically,

15   Apple argues that "receiving module" should be understood as "one or more processors and/or circuits

16   . . . operable to receive a control signal from the apparatus." Ex. C ¶¶ 29, 58-59. Accordingly,

17   "receiving module" is not subject to § 112(f).

18   If the Court concludes that "receiving module" *does* invoke § 112(f), Apple fails to meet its

19   burden to show that the term is indefinite by clear and convincing evidence.

20   The specification identifies a sufficiently definite corresponding structure. The specification

21   describes the receiving module's location as part of the terminal device and how it receives a command

22   from the output module of the server:

> The terminal device can be comprised of a **_receiving module_** and means for initiating
> activity of the terminal device corresponding to the command. The activity of the
> terminal device can be dedicate to the particular terminal device, such as powering on

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and off for a lamp, raising and lowering temperature of a thermostat, answering a phone call on a smartphone, checking calendar software on a table, and changing channels on a television. ***The receiving module in communication with the server receives the command***, and the means for initiating performs the activity.

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As Haptic's claim construction expert testified, "receiving module" connotes a sufficiently definite

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structure, the specific configuration of which could be implemented by a POSITA based on the

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specification's disclosures. Ex. B at ¶¶74-77.

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Apple has failed to meet its burden to show that "receiving module" is indefinite. *Budde*, 250

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F.3d at 1376-77.

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C.   "Routing module . . . said routing module receiving said data signals from said sensor"

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Term	Haptic's Proposed Construction	Apple's Proposed Construction
"routing module. . .said routing module receiving said data signals from said sensor"	No construction necessary. Not subject to 35 U.S.C. 112(f). Not indefinite.	Subject to 35 U.S.C. 112(f). Indefinite. Functions: • Routing • Receiving the data signals from the sensor Structure: • Receiving module 44 • Equivalents thereof

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"Routing module" is not a means-plus-function term and should be given its plain and ordinary

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meaning because the patentee neither acted as its own lexicographer nor made a clear disavowal of

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claim scope. Because "routing module" does not use the word "means," it is Apple's burden to

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demonstrate that § 112(f) applies.

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In addition to the reasons identified above applicable to all the "module" terms, claim 1

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describes "routing module" as a structural component of the claimed "server" that "receives data

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signals from said sensor" and is connected to the processing module:

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a server in communication with said sensor, said server being comprised of ***a routing module***, a processing module being connected to ***said routing module***, and an output module connected to said processing module, ***said routing module receiving said data signals from said sensor***, said processing module determining a data pattern

corresponding to said data signals of said contact interaction and matching said data pattern with a gesture profile, said gesture profile being associated with a command;

The claim's description of the routing module's role, connections to, and interactions with the other components of the control system (the sensor and the processing module), "which informs the term's structural character." *Proofpoint*, 2015 WL 7770208, at *11.

The Apple fails to overcome the presumption against applying § 112(f) because "routing module" connotes a sufficiently definite structure to a POSITA. *See Skky, Inc. v. Mind Geek*, 859 F.3d 1014, 1020 (Fed. Cir. 2017) (holding that the claim term "'wireless device means' does not invoke § 112 ¶ 6 because its clause recites sufficient structure."). A POSITA would understand that "routing module" as used in the '738 Patent connotes a sufficiently definite structure and identifies a class of known structures. Ex. B at ¶¶80-82. A POSITA would understand that "routing module" is synonymous with a "router" that receives data signals from a sensor and thereafter routes such data signals to a processor. *Id.* at ¶¶83-84. The specific router configurations would be a POSITA's choice of implementation. *Id*.

Apple's positions in its IPR petition further support the proposition that § 112(f) does not apply to "routing module." In Ground 1C, Apple relies on its claim constructions in this litigation and acknowledges that "routing module" connotes a sufficiently definite structure. Ex. C ¶¶53-54. Specifically, Apple argues that a prior art combination "renders obvious a 'routing module' based on Orr's disclosure of an I/O interface that routes and receives data signals from the sensor." *Id*.

Alternatively, if the Court finds that "routing module" invokes § 112(f), Apple has failed to meet its burden to show that "routing module" is indefinite due to a lack of corresponding structure in the specification. *Budde*, 250 F.3d at 1376-77.

The specification describes how the routing module receives data signals and routes them to the processing module. Patent, 10:64-67 ("The data signals 70 are received with the routing module

44 of the server 40, and the processing module 46 determines a data pattern corresponding to the data signals of the contact interaction 60."); *id*. at 9:44-45 ("the routing module 44 receives the data signals 70 from the sensor 30."); Ex. B at ¶¶86-87. A POSITA with even a rudimentary understanding of signal processing would understand the hardware needed to carry out the signal routing functionality. "Routing module" as used in the specification sufficiently describes that structure.

Therefore, "routing module" is definite. Either Rule 112(f) is inapplicable—the claim language itself provides sufficient structure—or the specification provides adequate corresponding structure.

D.   "Output module . . . said output module transmitting said command to said receiving module"

Term	Haptic's Proposed Construction	Apple's Proposed Construction
"output module. . .said output module transmitting said command to said receiving module"	No construction necessary. Not subject to 35 U.S.C. 112(f). Not indefinite.	Subject to 35 U.S.C. 112(f). Indefinite. Functions: • Outputting • Transmitting the command to said receiving module Structure: • Output module 48 • Equivalents thereof

"Output module" is not a means-plus-function term and should be given its plain and ordinary meaning because the patentee neither acted as its own lexicographer nor made a clear disavowal of claim scope. Because "output module" does not use the word "means," it is Apple's burden to demonstrate that § 112(f) applies.

In addition to the reasons identified above applicable to all the "module" terms, claim 1 describes "output module" as a structural component of the claimed "server" that transmits a command from the processing module of the server to the receiving module of a terminal device. Accordingly, because the term "output module" does not a means-plus-function term because it provides "structural context" by reciting its location (it is a component of the "server" that is "connected to said processing

module") and its connections to the other components of the control system (it "transmit[s] said command to said receiving module" of a terminal device). *See Mad Dogg*, 2021 WL 3200994, at *15 ("[E]ach of the claims provides further structural context by reciting how the connected to the other structural elements and how [they] interact[] with those elements.").

Apple also fails to overcome the presumption against the application of §112(f) because "output module" connotes a sufficient structure to a POSITA. *See Skky, Inc.*, 859 F.3d at 1119 (holding that "'wireless device means' does not invoke § 112 ¶6 because its clause recites sufficient structure."). Here, the "output module" refers to a known class of structures transmit data from a server to terminal device. Ex. B at ¶93. The specific output configurations would be a POSITA's choice of implementation. *Id*.

Apple's positions in its IPR petition further support the proposition that § 112(f) does not apply to the "output module" term. At Ground 1C, Apple relies on its own claim constructions in this litigation and admits that "output module" connotes a sufficiently definite structure. Specifically, Apple contends that the output module is "an I/O interface, which a POSITA would have understood acts as a transmitter." Ex. C at ¶¶ at 54.

In the alternative, if § 112(f) *does* apply, the specification discloses enough of a corresponding structure for a POSITA to perceive the bounds of the invention. The specification describes how the output module transmits data from the server to a terminal device. *See e.g.*, '738 Patent at 9:45-61 ("The gesture profile 90 is associated with a command, such as power off or change channels or dim intensity. Then, *the output module 48* transmits the command to the terminal device 50. For example, when the terminal device 50 is a television, a contact interaction 60 of two knocks can be detected as data signals 70 to generate a data pattern 80. The data pattern 80 can be matched to a gesture profile 90 associated with changing channels up one channel. *The output module 48 communicates the command to change channels up one channel through the server 40 to the television as the terminal*

device 50). Additionally, the specification's description of the "output module" discloses a well-known technique in the art. *See Enfish.*, 822 F.3d at 1340 (well-known techniques do not need to be specifically disclosed); Ex. B at ¶96. Accordingly, the combination of the use of a well-known structural term ("output module") and a description of the tasks performed by such output modules, a POSITA would understand that the specification discloses the bounds of the invention through a sufficient corresponding structure.

"Output module" is definite. Either § 112(f) does not apply—the claim language itself provides sufficient structure—or the specification provides a sufficient corresponding structure.

IV.   "Engagement means . . ."

The parties' proposed constructions of the "engagement means" term are below, with the differences between the constructions in red and blue:

Term	Haptic's Proposed Construction	Apple's Proposed Construction
"engagement means . . . wherein said engagement means of said housing comprises: an attachment means between said housing to said mounting surface; and a transmission portion connecting said sensor to said attachment means of said housing and being comprised of a material with flexibility different than said mounting surface so as to set a rigid position of said sensor relative to said mounting surface, said contact interaction generating said data signals of said sensor through said transmission portion"	Subject to 35 U.S.C. 112(f). Functions: • Engagement • Attaching or holding the housing to the mounting surface. • Transmitting data signals to the sensor • Connecting the sensor to the housing to set a rigid position of said sensor relative to said mounting surface Structures: • Adhesive, mechanical fasteners, or threaded screws • Transmission portion being comprised of a material with flexibility different than said mounting surface, which comprises one or	Subject to 35 U.S.C. 112(f). Functions: • Engagement • Attaching or holding the housing to the mounting surface • Transmitting data signals from the attachment means to the sensor • Connecting said sensor to said attachment means of said housing to set a rigid position of said sensor relative to said mounting surface Structures: • Adhesive, mechanical fasteners, or threaded screws • Transmission portion 28, which includes frames and brackets 38 or a

Term	Haptic's Proposed Construction	Apple's Proposed Construction
	more of: (1) Frames and brackets, (2) a rigid material such as an injection molded frame, or (3) a spring loaded portion • Equivalents thereof	spring loaded portion, each of which are comprised of a material with flexibility different than the mounting surface and reduce damping • Equivalents thereof

The parties agree that "engagement means" is a means-plus-function term and about most of the functions and corresponding structures. The areas of dispute are: (1) the functions of the "transmission portion," (2) whether the specification's corresponding structures for the transmission portion require the transmission portion to "reduce damping," and (3) whether the corresponding structures for the transmission portion are limited to "frames and brackets or a spring loaded portion" (as Apple contends) or include other embodiments of the transmission portion described in the specification, including "a rigid material such as an injection molded frame" (as Haptic contends). In each instance, Apple's proposed construction improperly adds limitations.

A.   The correct function of the "transmission portion" is "transmitting data signals to the sensor."

Apple's insertion of "transmitting data signals from the attachment means to the sensor" into the claimed function is impermissible. The claim language does not require the data signals to be transmitted specifically from the attachment means to the sensor, and "a court may not import functional limitations that are not recited in the claim" *Wenger Mfg., Inc. v. Coating Machinery Systems, Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001); *In re Teles AG Informationstechnologien*, 747 F.3d 1357, 1367-68 (Fed. Cir. 2024) ("[Section 112(f)] does not permit limitation of a means-plus-function claim by adopting a function different from that explicitly recited in the claim."). Adopting Apple's proposed construction improperly equates the "attachment means" with the "mounting surface" and imports improper additional limitations.

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In contrast, Haptic's proposed function—"transmitting data signals to the sensor"—is consistent with the claim language and the specification's embodiments that describe data signals being transferred "*through* the transmission portion" or "*to* the sensor," but not necessarily *from the attachment means*. '738 Patent Claim 1 ("The engagement means 24 of the housing 20 is cooperative with the sensor 30 so that *any contact interaction generates data signals of the sensor through the transmission portion 28* of the engagement means 24); *id.* 8:1-8 ("[T]he sensor 30 is in a fixed position relative to the engagement means 24, so that contact interaction *is transmitted through the mounting surface 22 to the sensor 30*. Movement, sound waves, and vibration through the mounting surface 22 can be transmitted as efficiently as possible *to the sensor 30 through the mounting surface 22 and the engagement means 24*").

Because the claim language and specification do not require the transmission portion to transmit data signals "*from the attachment means*," the Court should adopt Haptic's proposed function for the transmission portion of "transmitting data signals to the sensor."

B.   The corresponding structures for the transmission portion are not required to "reduce damping."

Both Parties recognize that reducing damping is not a function of "transmission portion." Apple, however, inserts "reduce damping" into its proposed corresponding structure for "transmission portion." However, the Federal Circuit has made clear that "unless the structures are clearly associated with the claimed function, they cannot be corresponding structures for purposes of 112(6)." *Omega Engineering, Inc, v. Raytek Corp.*, 334 F.3d 1314, 1332 (Fed. Cir. 2003); *Micro Chemical, Inc. v. Great Plains Chemical Co., Inc.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999) ("[Section 112(f)] does not permit incorporation of structure from the written description beyond that necessary to perform the claimed function."). Therefore, Apple's attempt to read structures that "reduce damping" into the corresponding structure for the "transmission portion" should be rejected.

Indeed, the specification provides several exemplar embodiments of the "transmission

portion." But only some of those embodiments—e.g., "a spring loaded portion"—require the transmission portion to reduce damping. *See* '738 Patent at 7:8-9; 8:26-28. Apple's insertion of "to reduce damping" into its proposed corresponding structure ignores an embodiment of the transmission portion in the specification that, unlike the embodiments cited by Apple, does not mention or require damping-reduction. *See* '738 Patent at 8:20–25 ("The transmission portion 28 can be comprised of a rigid material, such as an injection molded frame with flexibility different than the materials of the mounting surface 22 or surface of the contact interaction, if different from the mounting surface 22."). This embodiment of the transmission portion does not mention or address "damping." The existence of an alternative embodiment alone is enough to reject Apple's attempt to insert additional limitations to narrow the corresponding structures for the "transmission portion." *Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1358 (Fed. Cir. 2004) ("Absent a clear disavowal in the specification or the prosecution history, the patentee is entitled to the full scope of its claim language.").

Accordingly, the Court should not adopt "reducing damping" as part of the corresponding structure of the transmission portion.

C.   Apple's proposed corresponding structures for the transmission portion improperly exclude a "rigid material such as an injection molded frame," an embodiment expressly disclosed in the specification.

The Federal Circuit has made clear that for means-plus-function terms, courts need not limit the "corresponding structure" to a structure found in a single embodiment of the invention when the patentee has disclosed multiple embodiments. *Micro Chemical, Inc. v. Great Plains Chemical Co., Inc.,* 194 F.3d 1250, 52 (Fed. Cir. 1999) (reversing finding of noninfringement because the court too narrowly construed a means-plus-function limitation ("weighing means for determining") to a single embodiment of "weighing" when the written description also described at least two other alternative weighing methods and their structural components).

Apple's proposed construction attempts to limit the corresponding structures of the

"transmission portion 28" to include only "frames and brackets 38 or a spring loaded portion." But the specification describes at least one other embodiment of the "transmission portion," which is "***a rigid material, such as an injection molded frame*** with flexibility different than the materials of the mounting surface." Patent at 8:20-25. As described in the specification, "a rigid material, such as an injection molded frame" is a corresponding structure of the transmission portion.

Accordingly, the Court should adopt Haptic's construction of "engagement means" to include "a rigid material, such as an injection molded frame" as one of the corresponding structures of the transmission portion.

D.   Apple's proposed corresponding structure improperly requires every component of the transmission portion to have a flexibility different than the mounting surface.

Apple's proposed corresponding structure for the transmission portion improperly requires *all* of the components of the transmission portion to have a flexibility different than the mounting surface. However, the claim language requires only that the transmission portion as a whole has a material with flexibility different than the material of the mounting surface. For example, the specification describes embodiments as "frames and bracket 38," "a spring loaded portion," or a "rigid material such as an injection molded frame," any one of which could have a material with flexibility different than the mounting surface. But under Apple's proposed construction, the corresponding structures would improperly require *every* material within the transmission portion to be a material with different flexibility than the materials of the mounting surface. Such a construction is inconsistent with the claim language, the specification, and does not conform to § 112(f)'s requirements.

Conclusion

Haptic respectfully requests that the Court adopt its proposed claim constructions.

Dated: October 29, 2024   SUSMAN GODFREY L.L.P.

By: */s/ Ace M. Factor*
Ace M. Factor

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